Accept

Work Order ID 94172

November-30-12 9:36:29 AM

D2973

Cross Bolt Spacer

**Start Date:** Required Date: 11/30/12

11/30/12

**Start Qty: 20.00** Req'd Qty: 20.00

\*N900040100\*

Setup Start

**Cust Item ID:** 

**Customer:** 

Reference:

Item ID:

Revision ID: Item Name:

Approvals:

Process Plan: MLJ Date: 12-12-03 Tooling:

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N):

Date:

Date:

Run

Page 1

Sequence ID/ Work Center ID	Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr				,					
D2973	Rev A									
100			0.00				,,,,			
*100* Hardinge		Memo	0.00	SA 13	3-01-23		20	Ø		·
H. P. CNC Lette Co. II		THIRN AC DED DWG AND FOLIO FDAG								

Hardinge CNC Lathe Small

TURN AS PER DWG AND FOLIO FB096

DWG REV:

FOLIO REV: N

105

QC2- Inspect parts off machine FAI/FAIB

0.00

\*105\*

OC Quality Control Memo

0.00

\$13-01-23

20 0

107

\*107\* OC

Quality Control

QC8- Inspect parts - second check

Memo

0.00

0.00

13.1.23 20 1

NCR:	Yes	1	Nio
INC.D.	162	1	11()

											DQA:	Date	•	
NCR:	⁄es	/ No				WORK ORDER NON-	CON	NFORM	MANCE / UPI		QA Closed:	Date	:	
Vork Orde	ar.					DISPOSITION		AGAINST DEPARTMENT/PROCESS						
Part I	٠ اo٠.					Rework Scrap Use-as-is Work Order Update		Skid-tube Crosstube  Machining Small Fab  Thermoforming Finishing  Large Fab Composite			Proc Rec/Stor	Engineering Quality Other		
Root Cause		Date	Step	Qty	1	' '		nitial Action ief Eng Description			Sign & Date	Verification	QC Inspector	
oc/Data guip/Tooling perator laterial etup ther rocess upplier raining			·											
						F	AUL	T CATE	GORY					
Landi	_	<b>Bending</b>				General Bend		Grain		·	Ovalized		Pressure/Forced	
		Centre No Cracks Crushed/0			o/s	BOM/Route Broken/Damaged Burrs		Instruct	ion Incomplete ions Incomplete/l	Unclear	Over/Under Part Incorred Part Lost/Mi	it [	Temperature/Cure Weld Wrong Stock Pulled	
	Heat Treat Count Inspection Strip in Tube Cut To				Contamination Countersink Cut Too Short		Mainte Mislabe Misreae	eled		Part Moved Positioned Wrong Power Loss/Surge		Other		
Ripples in Bend Drill Holes Torque Waves in Extrusion Drawing					Drawing		1	Calibration						
	Turning Sequence Wave/Twist in Tube					Finish Folio	-	Out of Sequence Outside Dimensions						

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Work Order ID 94172 Page 2 November-30-12 9:36:29 AM Item ID: D2973 Accept Setup Start \*N900040100\* Revision ID: Stop Item Name: Cross Bolt Spacer \*20\* Start Date: 11/30/12 **Start Oty: 20.00 Cust Item ID:** Required Date: 11/30/12 Reg'd Otv: 20.00 **Customer:** Reference: Run Date: Tooling: Approvals: Process Plan: Date: Stop SPC (Y/N): OC: Date: Date: Tool ID Sequence ID/ Operation Set Up/ Tool # Plan Accept Reject Reject Insp. Work Center ID Description Code Oty Oty Number Stamp **Run Hours** Identify as per dwg & Stock Location: 120 0.00 \*120\* 0.00 Packaging Memo Packaging \*\*\*STOCK IN SKIDTUBE CELL\*\*\* 130 QC21- Final Inspection - Work Order Release 0.00 \*130\* OC 0.00

Memo

**Quality Control** 

13/1/3192 13/01-37

											DQA:	Date:		
NCR:	Yes	/ No				<b>WORK ORDER NON-</b>	COI	NFORM	/ANCE / UP	DATE				
				_							QA Closed:	Date:		
Work Orde	or.					DISPOSITION		AGAINST DEPARTMENT/PROCESS						
Part No.						Rework Scrap		Skid-tube Crosstube Machining Small Fab			Pro	Water Jet d. Eng. Coor.	Engineering Quality	
NCR N	•					Use-as-is Work Order Update		Therm	noforming Large Fab	Finishing Composite	Rec/Stor	re/Packaging Supplier	Other	
Root					Descri	ption of work order update	Т	Initial	Ac	tion	Sign &			
Cause		Date	Step	Qty		or Non-conformance	Cr	nief Eng	Desc	ription	Date	Verification	QC Inspector	
Doc/Data														
Equip/Tooling											:			
Operator							1							
Material													,	
Setup														
Other	Ш													
Process	Ш													
Supplier														
Training														
Unapproved														
							AUI	T CATE	GORY					
Landi	ng G	Gear			_	General		-			•		1	
	1 1	Bending			[	Bend	1	Grain			Ovalized		Pressure/Forced	

Hardware

Maintenance

Out of Calibration

Out of Sequence

**Outside Dimensions** 

Mislabeled

Misread

Offset

Inspection Incomplete

Instructions Incomplete/Unclear

DOA:

Over/Under tolerance

Part Incorrect

Part Moved

Part Lost/Missing

Positioned Wrong

Power Loss/Surge

Temperature/Cure

Wrong Stock Pulled

Weld

Other

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Ripples in Bend

Turning Sequence

Wave/Twist in Tube

Cracks

Cuffs

Heat Treat

Crushed/Crimped.

Inspection Strip in Tube

Torque Waves in Extrusion

Centre Not Concentric to O/S

BOM/Route

Contamination

Countersink

Cut Too Short

Drill Holes

Drawing

Finish

Folio

Burrs

Broken/Damaged

**Picklist Print** 

November-30-12 9:36:29 AM

Work Order ID:

94172

Parent Item:

D2973

Parent Item Name:

Cross Bolt Spacer

**Start Date:** 11/30/12

Required Date: 11/30/12

Page 1

**Start Qty: 20.00** 

Required Qty: 20.00

Comments:

IPP A00.05.18New IssueEC

IPP REV:B NOW ON HARDINGE 12.02.28

112652

		JLM	V	'ERII	FIEI	) B	Y:D	D
 	_							_

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M6061T6T0.750W.058 6061-T6 RD Tube .750 x.	058W	Purchased	No			100	f	132.4500	0.2896 رن رن ا	. 7 <sup>6.096842</sup>		ff 13-c	1-73
				<b>Location</b>		Loc Oty	<u>Lo</u>	c Code					
				MAT015		132.45							
				1009	99	24			6.6	<u>67'</u>			

108.45

6.667

			DQA:	Date:
ICR:	Yes / No	WORK ORDER NON-CONFORMANCE / UPDATE		

										QA Closed:	Date	:
Work Orde	r:				DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
Part N NCR N	0.				Rework Scrap Use-as-is Work Order Update	The	Skid-tube Machining ermoforming Large Fal	g	Crosstube  Small Fab  Finishing  Composite	Proc Rec/Stor	Engineering Quality Other	
IVERTIV	·				Work Order opuate	<b>.</b>	Large Fab Composite Supplier					
Root				Descri	ption of work order update	Initia	Initial Action		tion	Sign &		
Cause	Date	Step	Qty	4	or Non-conformance	Chief E	ng	Desci	ription	Date	Verification	QC Inspector
Doc/Data												
Equip/Tooling												
Operator						1						
Material												
Setup												
Other										`		
Process												
Supplier												
Training												
Unapproved						<u> </u>						
					F.	AULT CA	TEGCIRY					
Landin	ng Gear				General						_	_
	Bending				Bend	Grai	n			Ovalized		Pressure/Forced
	Centre No	ot Conce	ntric to	o/s	BOM/Route	Hard	lware			Over/Under	<u> </u>	Temperature/Cure
	Cracks			<u> </u>	Broken/Damaged	Insp	ection Incomp	olete		Part Incorre	ct	Weld
	Crushed/	Crimped.			Burrs	-	uctions Incom	plete/	Unclear	Part Lost/Mi	issing	Wrong Stock Pulled
1	Cuffs				Contamination	Mai	ntenance			Part Moved		•
	Heat Trea	at			Countersink	Misl	abeled			Positioned V	Vrong	
1	Inspectio	n Strip in	Tube	L	Cut Too Short	Misr	ead			Power Loss/	Surge	Other
	Ripples in Bend Drill Holes			Drill Holes	Offs	et						
Ĺ	Torque W	/aves in E	Extrusio	n	Drawing	Out	of Calibration	I				
Ĺ	Turning S	equence			Finish	Out	of Sequence					•
ł	Wave/Twist in Tube			Folio	Outs	ide Dimensio	ns					

DART AEROSPACE LTD	Work Order:	94172
Description: X-Bolt spaces	Part Number:	D2973
Inspection Dwg: D2973 Rev: 4		Page 1 of 1

## FIRST ARTICLE INSPECTION CHECKLIST

Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
+.030/-0.0	3.490	✓ <sub>_</sub>		5108	Veen
+/-,010	.750	/			
+1010	.058	<b>V</b>		V	
					,
		· · · · · · · · · · · · · · · · · · ·			
	+.030/- 0.0 +/010 +/010	Tolerance Dimension +.030/-0.0 3.490 +/010 .750 +/010 .058	Tolerance Dimension Accept  +.030/- 0.0 3.490   +/010 .750   +/010 .058	Tolerance Dimension Accept Reject  +.030/-0.0 3.490 / +/010 .750 /  +/010 .058 /	Tolerance Dimension Accept Reject Inspection  +.030/-0.0 3.490

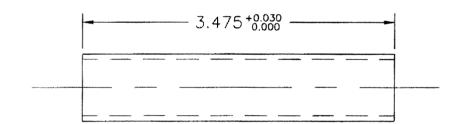
0.4	ON	
Measured by:	Audited by: 04	Preliminary Approval:
Date: 13-01-23	Date: 13 - 1.23	Date:

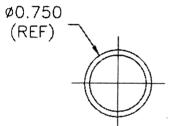
R	ev	Date	Change	Revised by	Approved
	E	10.04.14	Added preliminary approval	KJ	



OESIG	N F	DRAWN BY	DART	AEROSPACE BELLEVUE, WA	USA,	INC.
CHECK	(ED	APPROVED	drawing no. D2973		SH	REV. A
DATE		TITLE		SCALE		
00.03.13		CROSS BOLT SPACER		1:1		
Α		00.03.13	NEW ISSU	ΙE		







MATERIAL: 6061-T6 (WW-T-700/6) 0.750 DIA.  $\times$  0.058 WALL TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

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